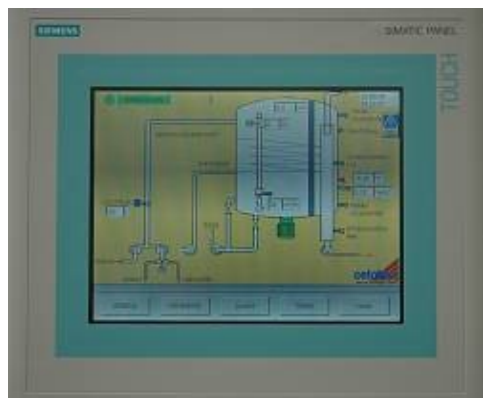


# Process Control

Apart from pure measurement technology, cetotec also offers State-of-the-Art SIEMENS process control equipment adaptable to the processes employed by each customer. This equipment can control entire fermentation processes or simply parts thereof. The following process parameters are registered and evaluated by the PLC to control fermentation: temperature, alcohol concentration, filling level and foam generation. Additional parameters can be measured and evaluated on request.

## SIEMENS PLC S7 – 300



The reliable Siemens-PLC system has been used successfully

for the control of vinegar production processes worldwide. The new State-of-the-Art Siemens S7 – 300 allows the smooth control of the fermentation process. The Fermenter as well as all motors and pumps are depicted on a large colour 10" Touch Panel, which is easy to operate. The SIEMENS PLC calculates the recipes for the fermentation process. A few basic values (e.g. the target total concentration, the desired concentration of alcohol and acetic acid, nutrient concentration) are entered and the recipes are calculated automatically on the basis of these values. Besides actuating all motors, pumps and sensors, it controls the whole fermentation process, such as the exact dosing of alcohol, water and nutrients to a given recipe.

## Process visualisation

The software, being specially designed for vinegar fermentation allows a clear depiction of the fermenter with filling level, temperature, air volume, alcohol content. Furthermore all active motors and the dosed volumes of alcohol and nutrients are displayed. Trends display an overview of the fermentation process of the last days and improve production security. These data may be stored and retrieved at any moment. Error messages are displayed in full text. Our remote control monitoring system allows a survey of the fermentation process via modem.